

I claim:

1. A system for controlling at least one selected motion control device selected from a group of supported motion control devices, comprising:
5 an application program comprising a series of component function calls, where the application program defines steps for operating motion control devices in a desired manner;
a set of software drivers, where each software driver is associated with one motion control device in the group of supported motion control
10 devices and a selected software driver is associated with at least one selected motion control device;
a selection component for identifying at least one selected software driver from the set of software drivers, where the at least one selected software driver is associated with the at least one selected motion
15 control device; and
a motion control component for communicating with the at least one selected motion control device based on the at least one selected software driver and the component functions called by the application program such that the at least one motion control
20 device moves in a desired manner.
2. A system as recited in claim 1, in which the selection component comprises a user interface that allows a user to identify the at least one selected software driver.
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3. A system as recited in claim 1, in which the selection component comprises a selection interface that allows the at least one selected software driver to be identified programmatically.
- 30 4. A system as recited in claim 1, in which the motion control component sends data to and receives data from the at least one selected motion control device.

5. A system as recited in claim 1, in which the motion control component controls, monitors, and configures the at least one selected motion control device.

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6. A system as recited in claim 1, in which each of the software drivers in the set of software drivers conforms to a common driver interface.

7. A system as recited in claim 6, in which the common driver interface comprises a set of component functions that are exposed to the motion control component by each of the software drivers.

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8. A system as recited in claim 6, in which the motion control component communicates with the at least one motion control device through the common driver interface of the software driver associated with the at least one motion control device.

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9. A system as recited in claim 6, in which the application program communicates with the motion control component.

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10. A system for controlling at least one selected motion control device selected from a group of supported motion control devices, comprising:
a set of software drivers, where each software driver is associated with one motion control device in the group of supported motion control devices and a selected software driver is associated with at least one selected motion control device;
a selection component for identifying at least one selected software driver from the set of software drivers; and
a software system for calling a series of component function calls to control the at least one selected motion control device associated with the at least one selected software driver based on the at least one selected software driver such that the at least one motion control device moves in a desired manner.

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11. A system as recited in claim 10, in which the selection component comprises a user interface that allows a user to identify the at least one selected software driver.

5 12. A system as recited in claim 10, in which the selection component comprises a selection interface that allows the at least one selected software driver to be identified programmatically.

10 13. A system as recited in claim 10, in which the software system sends data to and receives data from the at least one selected motion control device.

15 14. A system as recited in claim 10, in which the software system controls, monitors, and configures the at least one selected motion control device.

15 15. A system as recited in claim 10, in which each of the software drivers in the set of software drivers conforms to a common driver interface.

20 16. A system as recited in claim 15, in which the common driver interface comprises a set of component functions that are exposed to the software system by each of the software drivers.

25 17. A system as recited in claim 15, in which the software system communicates with the at least one motion control device through the common driver interface of the software driver associated with the at least one motion control device.

30 18. A system for controlling at least one selected motion control device selected from a group of supported motion control devices, comprising:
a set of software drivers, where each software driver is associated with one motion control device in the group of supported motion control

devices and a selected software driver is associated with at least one selected motion control device; and
a software system for identifying at least one selected software driver from the set of software drivers and calling a series of component function calls to control the at least one selected motion control device associated with the at least one selected software driver based on the at least one selected software driver such that the at least one motion control device moves in a desired manner.

10 19. A system as recited in claim 18, in which the software system comprises a user interface that allows a user to identify the at least one selected software driver.

15 20. A system as recited in claim 18, in which the software system comprises a selection interface that allows the at least one selected software driver to be identified programmatically.

20 21. A system as recited in claim 18, in which the software system sends data to and receives data from the at least one selected motion control device.

25 22. A system as recited in claim 18, in which the motion control component controls, monitors, and configures the at least one selected motion control device.

 23. A system as recited in claim 18, in which each of the software drivers in the set of software drivers conforms to a common driver interface.

30 24. A system as recited in claim 23, in which the common driver interface comprises a set of component functions that are exposed to the software system by each of the software drivers.

25. A system as recited in claim 23, in which the software system communicates with the at least one motion control device through the common driver interface of the software driver associated with the at least one motion control device.

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26. A system for controlling at least one selected motion control device selected from a group of supported motion control devices, comprising:
an application program comprising a series of component function calls,
where the application program defines steps for operating motion
control devices in a desired manner;
a set of software drivers, where each software driver is associated with
one motion control device in the group of supported motion control
devices and a selected software driver is associated with at least
one selected motion control device;
a software system for identifying at least one selected software driver
from the set of software drivers and controlling at least one
selected motion control device associated with the at least one
selected software driver based on the at least one selected
software driver and the component functions called by the
application program.

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27. A system as recited in claim 26, in which the software system comprises a user interface that allows a user to identify the at least one selected software driver.

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28. A system as recited in claim 26, in which the software system comprises a selection interface that allows the at least one selected software driver to be identified programmatically.

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29. A system as recited in claim 26, in which the software system sends data to and receives data from the at least one selected motion control device.

30. A system as recited in claim 26, in which the motion control component controls, monitors, and configures the at least one selected motion control device.

5 31. A system as recited in claim 26, in which each of the software drivers in the set of software drivers conforms to a common driver interface.

 32. A system as recited in claim 26, in which the common driver interface comprises a set of component functions that are exposed to the
10 software system by each of the software drivers.

 33. A system as recited in claim 26, in which the software system communicates with the at least one motion control device through the common driver interface of the software driver associated with the at least one motion
15 control device.

 34. A system as recited in claim 26, in which the application program communicates with the at least one motion control device through the common driver interface of the software driver associated with the at least one motion
20 control device.

 35. A system for communicating with a motion control device, comprising:
 an application program comprising a series of function calls, wherein the
25 application program is configured to operate the motion control device in a desired manner;
 a software driver associated with the motion control device; and
 motion software for communicating with the motion control device based on the software driver and the functions called by the application
30 program such that the motion control device moves in the desired manner.

36. The system of claim 35, wherein the application program communicates with the motion software.

37. The system of claim 35, comprising a plurality of software drivers associated with the motion control device, wherein at least one software driver is associated with the motion control device.

38. The system of claim 37, wherein each of the plurality of software drivers conforms to a common driver interface.

39. The system of claim 38, wherein the common driver interface comprises a set of functions that are exposed to the motion software.

40. The system of claim 38, wherein the motion software communicates with the motion control device through the common driver interface of the at least one software driver associated with the motion control device.

41. The system of claim 37, comprising a selector for identifying the at least one software driver associated with the motion control device from the plurality of software drivers.

42. The system of claim 41, wherein the selector comprises a user interface that allows a user to identify the at least one software driver associated with the motion control device.

43. The system of claim 41, wherein the selector comprises a selection interface that allows the at least one software driver associated with the motion control device to be identified programmatically.

44. The system of claim 35, wherein the motion software sends data to the at least one selected motion control device.

45. The system of claim 35, wherein the motion software receives data from the at least one selected motion control device.

46. The system of claim 35, wherein the motion software controls the
5 at least one selected motion control device.

47. The system of claim 35, wherein the motion software monitors the at least one selected motion control device.

10 48. The system of claim 35, wherein the motion software configures the at least one selected motion control device.

49. A system for communicating with a motion control device selected from a group of motion control devices, comprising:
15 an application program comprising a series of function calls, wherein the application program is configured to operate the selected motion control device in a desired manner;
a plurality of software drivers associated with the group of motion control devices, wherein at least one software driver is associated with the
20 selected motion control device;
a selector for identifying from the plurality of software drivers the at least one software driver associated with the selected motion control device; and
motion software for communicating with the selected motion control
25 device based on the identified software driver and the functions called by the application program.

50. The system of claim 49, wherein the application program communicates with the selected motion control device such that the motion
30 control device moves in the desired manner.

51. The system of claim 49, wherein the application program communicates with the motion software.

52. The system of claim 49, wherein each of the plurality of software drivers conforms to a common driver interface.

5 53. The system of claim 52, wherein the common driver interface comprises a set of functions that are exposed to the motion software by each of the software drivers.

54. The system of claim 52, wherein the motion software
10 communicates with the at least one motion control device through the common driver interface of the software driver associated with the at least one motion control device.

55. The system of claim 49, wherein the selector comprises a user
15 interface that allows a user to identify the at least one software driver associated with the motion control device.

56. The system of claim 49, wherein the selector comprises a
selection interface that allows the at least one software driver associated with the
20 motion control device to be identified programmatically.

57. The system of claim 49, wherein the motion software sends data to the at least one selected motion control device.

25 58. The system of claim 49, wherein the motion software receives data from the at least one selected motion control device.

59. The system of claim 49, wherein the motion software controls the
at least one selected motion control device.

30 60. The system of claim 49, wherein the motion software monitors the at least one selected motion control device.

61. The system of claim 49, wherein the motion software configures the at least one selected motion control device.

62. A system for communicating with a motion control device selected
5 from a group of motion control devices, comprising:
a plurality of software drivers associated with the group of motion control
devices, wherein at least one software driver is associated with the
selected motion control device;
a selector for identifying the at least one software driver associated with
10 the selected motion control device from the plurality of software
drivers; and
a software system for communicating with the selected motion control
device based on the at least one identified software driver
associated with the selected motion control device.

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63. The system of claim 62, wherein the software system communicates with the selected motion control device such that the selected motion control device moves in a desired manner.

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64. The system of claim 62, wherein each of the plurality of software drivers conforms to a common driver interface.

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65. The system of claim 64, wherein the common driver interface comprises a set of functions that are exposed to the software system by each of the software drivers.

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66. The system of claim 64, wherein the software system communicates with the selected motion control device through the common driver interface of the software driver associated with the selected motion control device.

67. The system of claim 62, wherein the selector comprises a user interface that allows a user to identify the at least one software driver associated with the motion control device.

5 68. The system of claim 62, wherein the selector comprises a selection interface that allows the at least one software driver associated with the motion control device to be identified programmatically.

69. The system of claim 62, wherein the software system sends data
10 to the at least one selected motion control device.

70. The system of claim 62, wherein the software system receives data from the at least one selected motion control device.

15 71. The system of claim 62, wherein the software system controls the at least one selected motion control device.

72. The system of claim 62, wherein the software system monitors the at least one selected motion control device.
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73. The system of claim 62, wherein the software system configures the at least one selected motion control device.

74. A system for communicating with a motion control device selected
25 from a group of motion control devices, comprising:
a plurality of software drivers associated with the group of motion control devices, wherein at least one software driver is associated with the selected motion control device; and
a software system for identifying the at least one software driver
30 associated with the selected motion control device from the plurality of software drivers and communicating with the selected motion control device based on the at least one identified software driver associated with the selected motion control device.

75. The system of claim 74, wherein the software system communicates with the selected motion control device such that the selected motion control device moves in a desired manner.

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76. The system of claim 74, wherein each of the plurality of software drivers conforms to a common driver interface.

77. The system of claim 76, wherein the common driver interface comprises a set of functions that are exposed to the software system by each of the software drivers.

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78. The system of claim 76, wherein the software system communicates with the selected motion control device through the common driver interface of the software driver associated with the selected motion control device.

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79. The system of claim 74, wherein the software system comprises a user interface that allows a user to identify the at least one software driver associated with the motion control device.

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80. The system of claim 74, wherein the software system comprises a selection interface that allows the at least one software driver associated with the motion control device to be identified programmatically.

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81. The system of claim 74, wherein the software system sends data to the at least one selected motion control device.

82. The system of claim 74, wherein the software system receives data from the at least one selected motion control device.

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83. The system of claim 74, wherein the software system controls the at least one selected motion control device.

84. The system of claim 74, wherein the software system monitors the at least one selected motion control device.

5 85. The system of claim 74, wherein the software system configures the at least one selected motion control device.

86. A system for communicating with a motion control device selected from a group of motion control devices, comprising:

10 an application program comprising a series of motion software functions, wherein the application program is configured to operate the motion control device in a desired manner;
a plurality of software drivers associated with the group of motion control devices, wherein at least one software driver is associated with the
15 selected motion control device;
a software system for identifying the at least one software driver associated with the selected motion control device from the set of software drivers and communicating with the selected motion control device based on the at least one identified software driver
20 and the motion software functions called by the application program.

87. The system of claim 86, wherein each of the plurality of software drivers conforms to a common driver interface.

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88. The system of claim 87, wherein the common driver interface comprises a set of functions that are exposed to the software system by each of the software drivers.

30 89. The system of claim 87, wherein the software system communicates with the selected motion control device through the common driver interface of the software driver associated with the selected motion control device.

90. The system of claim 87, wherein the application program communicates with the selected motion control device through the common driver interface of the software driver associated with the selected motion control device.

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91. The system of claim 86, wherein the software system comprises a user interface that allows a user to identify the at least one software driver associated with the motion control device.

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92. The system of claim 86, wherein the software system comprises a selection interface that allows the at least one software driver associated with the motion control device to be identified programmatically.

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93. The system of claim 86, wherein the application program sends data to the at least one selected motion control device.

94. The system of claim 86, wherein the application program receives data from the at least one selected motion control device.

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95. The system of claim 86, wherein the application program controls the at least one selected motion control device.

96. The system of claim 86, wherein the application program monitors the at least one selected motion control device.

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97. The system of claim 86, wherein the application program configures the at least one selected motion control device.

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98. A method for communicating with a motion control device, comprising:
selecting a motion control device from a group of motion control devices;

identifying at least one software driver associated with the selected
motion control device from a plurality of software drivers
associated with the group of motion control devices; and
communicating with the selected motion control device based on the at
5 least one identified software driver.

99. The method of claim 98, wherein identifying at least one software
driver associated with the selected motion control device comprises:
receiving input from a user selecting a software driver; and
10 associating the selected software driver with the motion control device.

100. The method of claim 98, wherein communicating with the selected
motion control device comprises monitoring the selected motion control device.

15 101. The method of claim 98, wherein communicating with the selected
motion control device comprises controlling the selected motion control device.

102. The method of claim 98, wherein communicating with the selected
motion control device comprises configuring the selected motion control device.
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103. The method of claim 98, wherein communicating with the selected
motion control device comprises controlling the movement of the selected motion
control device based on function calls from an application program configured to
operate the selected motion control device.
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104. A system for communicating with a motion control device selected
from a group of motion control devices, comprising:
a means for identifying at least one software driver associated with the
selected motion control device from a plurality of software drivers
associated with the group of motion control devices; and
30 a means for communicating with the selected motion control device using
the identified software driver.

105. A system of claim 104, comprising a means for operating the selected motion control device such that the motion control device moves in a desired manner.

5 106. The system of claim 104, wherein each of the plurality of software drivers conforms to a common driver interface.

10 107. The system of claim 106, wherein the common driver interface comprises a set of functions that are exposed to the system by each of the software drivers.

15 108. The system of claim 106, wherein the means for communicating with the selected motion control device communicates with the selected motion control device through the common driver interface of the software driver associated with the selected motion control device.

20 109. The system of claim 104, wherein the means for identifying at least one software driver associated with the selected motion control device comprises a user interface that allows a user to identify the at least one software driver associated with the motion control device.

25 110. The system of claim 104, wherein the means for identifying at least one software driver associated with the selected motion control device comprises a selection interface that allows the at least one software driver associated with the motion control device to be identified programmatically.

 111. The system of claim 1, wherein the application program communicates with the motion control component.

30 112. The system of claim 1, wherein the motion control component sends data to the at least one selected motion control device.

113. The system of claim 1, wherein the motion control component receives data from the at least one selected motion control device.

114. The system of claim 1, wherein the motion control component
5 controls the at least one selected motion control device.

115. The system of claim 1, wherein the motion control component monitors the at least one selected motion control device.

10 116. The system of claim 1, wherein the motion control component configures the at least one selected motion control device.

117. The system of claim 10, wherein the software system sends data to the at least one selected motion control device.

15 118. The system of claim 10, wherein the software system receives data from the at least one selected motion control device.

119. The system of claim 10, wherein the software system controls the at least one selected motion control device.

20 120. The system of claim 10, wherein the software system monitors the at least one selected motion control device.

25 121. The system of claim 10, wherein the software system configures the at least one selected motion control device.

122. The system of claim 18, wherein the software system sends data to the at least one selected motion control device.

30 123. The system of claim 18, wherein the software system receives data from the at least one selected motion control device.

124. The system of claim 18, wherein the software system controls the at least one selected motion control device.

125. The system of claim 18, wherein the software system monitors the
5 at least one selected motion control device.

126. The system of claim 18, wherein the software system configures the at least one selected motion control device.

10 127. The system of claim 26, wherein the software system sends data to the at least one selected motion control device.

128. The system of claim 27, wherein the software system receives data from the at least one selected motion control device.

15 130. The system of claim 27, wherein the software system controls the at least one selected motion control device.

131. The system of claim 27, wherein the software system monitors the
20 at least one selected motion control device.

132. The system of claim 27, wherein the software system configures the at least one selected motion control device.

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